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September 15, 1998

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
Room 222
1919 M Street, N.W.
Washington, D.C. 20554

EX PARTE

RE: IN THE MATTER OF PERFORMANCE MEASUREMENTS AND REPORTING REQUIREMENTS FOR OPERATIONS SUPPORT SYSTEMS, INTERCONNECTION, AND OPERATOR SERVICES AND DIRECTORY ASSISTANCE, CC DOCKET NO. 98-56, RM-9101

Dear Ms. Salas:

On behalf of the Local Competition Users Group ("LCUG"), I respectfully submit LCUG's Service Quality Measurements, Version 7.0, dated August 28, 1998. Please include a copy in the record of the proceeding listed above. Copies of this document have also been delivered to the attached list of Commission staff.

In October of 1997, LCUG filed its Service Quality Measurements, Version 6.1 in RM-9101. With almost a year's worth of additional experience in trying to enter local markets, LCUG's members developed Version 7.0 of the Service Quality Measurements to revise several of the measurements included in Version 6.1 and to add several new measurements. For the benefit of the Commission, I have also included a brief summary, prepared by MCI Communications, Inc., of the changes and additions made in Version 7.0.

The members of LCUG strongly believe that it is essential for the Commission to adopt rules measuring incumbent local exchange carrier performance in the the provision of operating systems support to their local competitors based on the measurements that LCUG has proposed in these Service Quality Measurements.

Sincerely,

Richard L. Fruchterman, III
Director of Government Affairs

Attachments: List of Commission Staff
LCUG Service Quality Measurements, Version 7.0
LCUG V7: Changes and Additions to V6.1

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LCUG V7: Changes and Additions To V6.1

Measurement Type:	Business Implications:	Additional Measures:
Collocation Provisioning Pages: 17, 62-63, Appendix A	***CLECs need to collocate their equipment in ILEC central offices to compete while CLECs build out their own networks. CLECs have far to go to catch up with the number of central office and trunking facilities ILECs have deployed. CLECs need to receive timely responses describing the price and availability of collocation space and timely provisioning of collocation arrangements. CLECs also need the timely offering of alternatives to physical collocation arrangements when collocation space is not available and virtual collocation is not adequate for the CLECs' needs. Without ILECs keeping even their very long committed due dates for collocation preparations, CLECs will be delayed ever longer in bringing competition to new areas.***	**1. Meantime to Respond to Collocation Request** **2. Meantime to Provide Collocation** **3. Percent Due Dates Missed** **Expanded Reporting Dimensions:** • Physical within CO (space available) • Physical within CO (space created) • Physical outside of CO (space available) • Physical outside of CO (space created) • Virtual • Backhauling to nearby CO • GR-303 • Other alternatives to physical
Database Updates Pages 18, 64-65 Appendix A	***Disparity in timely and accurate updates of ILEC controlled databases can lead to annoying, costly and possibly "life and death" situations for CLEC customers. Whether providing directory listings for a new customer or routing an ambulance to the right location in an emergency, databases must be policed for accuracy with equal care for CLEC and ILEC customers. Updating CLEC NXX numbers for appropriate call completion, pricing and E911 routing***	**4. Average Update Interval** **5. % Update Accuracy** **Reported by Following Databases/Tables:** • E911/911 ALI, Selective Router • MSAG • LIDB • OS/DA • DL • NXX tables at CO for call completion and NXX routing • NXX tables at tandem for call completion and NXX routing

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	also is critical to CLEC service not being viewed as inferior to ILEC service.	
Network Performance Pages 16, 57-60 Appendix A	***ILECs must not (1) give CLECs facilities that are inferior in transmission quality, (2) fail to notify CLECs of critical network incidents affecting their customers or (3) strangle CLEC customer growth with inadequate trunking capacity that leads to blocked calls for customers. All three areas of possible discrimination must be detected to protect network reliability for the CLEC's customers.***	**6. % Call Completion** **7. Meantime To Notify (Reportable Network Outage/Incident)** **8. Network Performance Parameters** • **Reporting Dimensions Failure to Notify includes all FCC reportable outages Appendix A lists in detail).** • **Business Implications section underscores that call completion/blocking reports often are controlled (customer orders held to avoid service degradation) by CLECs on dedicated final trunks.** • **Business Implications also underscore greater reliance of CLECs on common trunks, which makes blocking on such trunk groups more harmful to CLECs.**
General (Pre-Ordering + Maintenance Queries) Pages 13, 48-52 Appendix A	***CLEC customer service agents need to provide equally prompt and accurate responses as ILECs do when customers call about the status of their maintenance and repair requests. Since the measurement is similar to that previously proposed by LCUG for pre-ordering queries, the response time for both pre-ordering and maintenance status is now a General OSS/Call Center performance measurement. Added to other key pre-ordering reporting dimensions—telephone number reservation, Customer Service Record access, Due Date Reservation, etc.-- is access***	9. **Average Response Time** (previously was only for preordering, now moved to **General** OSS/Call Center performance measurements category and covers both preordering and maintenance query response times) **New Pre-Ordering Reporting Dimension:** Access to Loop Qualification (for advanced digital services) Databases.

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	to mechanized line plant databases. If ILECs make database information available to their sales and marketing agents regarding the qualification of their loop plant for handling advanced digital services, CLECs should receive the same real-time access to these databases.	**Maintenance Query Reporting Dimensions**: (all new) • Create (or confirm logging of) a Maintenance Request • Obtain Status • Obtain Test Results • Cancel Request • Rejected of Failed Queries (regardless of type) • Clearance Notification • Closure Notification
Maintenance & Repair Pages 11-12, 43-44 and 39-41; Appendix A	***CLECs will not keep customers long if they are perceived as less responsive on the status of maintenance and repair activity. CLECs abilities also will be suspect if they offer facilities that fail not long after installation or services that are disrupted by any new ordering activity.***	**10. Mean Jeopardy Notice Interval** **11. Percent Troubles within 30 days of installation or other order activity.** **Reporting Dimensions:** • Inside (Central Office) Dispatch - Out of Service • Outside Dispatch - Out of Service • Inside Dispatch – Degraded Service • Outside Dispatch – Degraded Service • No Access or No Trouble Found • NXXs not loaded properly by ILEC • NXXs not loaded properly by party other than CLEC/ILEC • All Other Troubles

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Ordering & Provisioning: Completion Intervals Pages 9, 26-29 Appendix A	*CLECs and ILECs need to offer customers similarly prompt scheduling of delivery dates. The "average offered interval" also shows non-parity if the ILEC's offered intervals for its own customers match more closely the completion intervals than do the ILEC's offered and completion intervals for CLEC customers. CLECs need to honor their offered intervals to retain customers.* *Completion of interconnect trunks on time, including ILEC's inbound augments in line with projections, is critical to CLECs' network performance. Slow provisioning of any interconnect trunk can block market entry or expansion for the CLEC. Basing trunk augments on actual utilization rather than projections or pending customer orders also is discriminatory behavior toward CLECs. This discrimination results because of the greater impact adding new customers can have on a CLEC versus an ILEC because of differing network designs.*	**12. Average Offered Interval** • **Reporting Dimensions: Separate reporting on interconnect trunks (dedicated and common) by capacity type.** • **Augment trunks are included as reporting dimension; i.e. for % Orders Completed OnTime means that missing CLEC forecast requirements and business requirements is same as missing due date.** • **Business Implications and Benchmarks/Objective Standards sections changed to highlight need to augment at different utilization levels for CLEC and ILEC because of differing network designs.**
Ordering & Provisioning: Order Status Pages 10, 32-35	*Service completions without notice or on short notice can tarnish a CLEC's image with customers. When the CLEC and customer are caught off guard, installations often cannot take place because key vendors and equipment are not ready. CLECs need to demonstrate to the customer*	**13. Average Completions/ Attempts without Notice or with Less then 24 Hours Notice**

	that they can plan properly for the installation and will keep the customer informed in a timely manner to prepare for any changes in the plan.	
Ordering & Provisioning: Order Processing Quality Pages 9, 29-32	***Mechanized flow through will cut down on errors caused by manual handling and ILEC rekeying of CLEC order information. CLECs also often have their orders rejected requiring numerous submissions that often delay due dates. ILEC systems and training issues often are the cause of these rejections, not the abilities of CLEC order entry personnel. ILEC editing systems often only note one error per rejection, requiring the resubmission of an order numerous times before all errors are found.***	**14. Percent Mechanized Order Flow Through** **15. Percent Orders Rejected** **16. Average Submission Per Order**
Ordering & Provisioning: **Coordinated Cutovers** Pages 10, 36-37	***CLEC customers expect coordinated cutovers to be just that—coordinated. They want the conversion to go quickly, without unexpected loss of dialtone or inbound call blocking. Customers must be able to keep their phone numbers without worrying about unscheduled service disruptions affecting their transition to a new carrier.***	**17. Average Coordinated Conversion Interval** **18. % Service Loss from Early Cuts** **19. % Service Loss from Late Cuts** **Reporting Includes:** ILNP PNP ILNP-to-PNP conversions
Operator Services, Directory Assistance and Directory Listings Pages 15, 56-57	***CLEC customers depend on accurate directory listings, and CLECs must have the same amount ofprooing time as ILECs receive to ensure that their customers' listings are error-free before directory publication.***	**20. Average Time Allotted to Proof Listing Updates Before Publication.** **Reporting Dimension:** By Directory

LCUG V7: Changes and Additions To V6.1

Service Types **Standard Activity Types** Appendix A:	***ILEC reporting must be disaggregated enough to be meaningful. To be meaningful, differences in time frames for provisioning due to the type of service or order activity require separate reporting by such service and order types. Aggregation cannot allow above-parity performance in one area to mask below-parity performance in another.***	**Service types expanded to include all kinds of unbundled elements, including different types of unbundled loops and interconnect trunks. Order activity type includes orders involving OS/DA and DL activities.**

LOCAL COMPETITION USERS GROUP (LCUG)

SERVICE QUALITY MEASUREMENTS (SQMs)

August 28, 1998
Membership: AT&T, Sprint, MCI, LCI, WorldCom

Version 7.0

Service Quality Measurements
—Table of Contents—

Background:

On August 8, 1996, the Federal Communications Commission released its First Report and Order (the Order) in CC Docket No. 96-98 (Implementation of the Local Competition Provisions of the Telecommunications Act of 1996). The Order establishes regulations to implement the requirements of the Telecommunications Act of 1996. Those regulations are intended to enable potential competitive local exchange carriers (CLECs) to enter and compete in the local telecommunications markets. One requirement found to be "absolutely necessary" and "essential" to successful entry is that the incumbent local exchange carriers (ILECs) provide nondiscriminatory access to their operations support systems (OSSs). Many variations of interim OSS GUIs (graphic user interfaces) and electronic gateways have been or are being offered by the ILECs. These interim systems have not provided the capability for the CLECs to provide the same customer experience for their customers as compared to what the ILECs do for their customers. The availability, timeliness and accuracy of information processed by the ILEC for pre-ordering, ordering, provisioning, maintenance and repair, unbundled elements, and billing have not, to date, been satisfactory. Service delivery problems exist regardless of whether total service resale (TSR), unbundled elements, or interconnection are utilized. Final solutions for application-to-application real time system interfaces are elusive because of the complexity, the diversity of committed implementation schedules, and lack of or inconsistent use of industry guidelines.

On February 12, 1997, the Local Competition Users Group (LCUG) issued its "Foundation For Local Competition: Operations Support Systems Requirements For Network Platform and Total Services Resale." The core principles contained in the document are: Service Parity, Performance Measurement, Electronic Interfaces, Systems Integrity, Notification of Change, and Standards Adherence. Each of these is significant to ensure CLEC customers can receive at least equal levels of service compared to those the ILEC provides to its own customers.

The LCUG group indicated in its Foundation document that is was essential that a plan be developed to measure the ILECs performance for all the OSS categories (e.g. pre-ordering, ordering and provisioning, maintenance and repair, network performance, unbundled elements, operator services and directory assistance, system performance, service center availability and billing). To that end, an LCUG sub-committee was formed with a charter to address measurements and metrics. The subcommittee jointly developed a comprehensive list of potential measurements, which was shared among the team members for review. Each committee member researched an assigned measurement group for the purpose of proposing consolidation and other modifications. The subcommittee discussed each measurement and considered existing regulatory requirements (minimum service standards) as well as good business practices in arriving at the recommended measurement and extent of detail to be reported. Service Quality Measurement (SQM) benchmark levels of performance were established to provide a nondiscrimination standard in the absence of directly comparative ILEC results. Establishing precise benchmark levels was difficult since ILECs have been reluctant to share actual performance results. The benchmarks, therefore, were based upon best of class performance and an assessment of the necessary performance to support a meaningful opportunity for CLECs to compete. SQM benchmarks may change if the ILECs share historical and/or self-report current results.

Measurement Plans:

A measurement plan, capable of monitoring for discriminatory behavior, must incorporate at least the following characteristics: 1) it permits direct comparisons of the CLEC and CLEC industry experience to that of the ILEC through recognized statistical procedures; 2) it accounts for potential performance variations due to differences in service and activity mix; 3) it measures not only retail services but experiences with UNEs and OSS interfaces; and 4) it produces results which demonstrate that nondiscriminatory access to OSS functionality is being delivered across all interfaces and a broad range of

resold services, unbundled elements and interconnection capabilities. The measures employed must address availability, timeliness of execution, and accuracy of execution.

It is essential that the CLECs be able to determine that they are receiving at least equal treatment to that ILECs provide to their own retail operations or their local service affiliates. Benchmarks (performance standards) that are either negotiated by the CLECs and ILECs, or ordered by Commissions, need to clearly demonstrate that new service providers are receiving service on reasonable terms that affords an efficient CLEC a meaningful opportunity to compete.

This document discusses measurements at both a summary level (Executive Overview) and at a level suitable for starting the implementation process (Measurement Detail).

Service Quality Measurements
Business Rules

Business Rules

Test for Parity and Compliance with the Act:

Across all reporting dimensions, performance results (mean, proportion, or rate) should be collected for the ILEC's retail versus wholesale performance. Using a statistical model acceptable to CLECs, these results should be compared to confirm or reject an assumption of parity (in performance results and variance) for each dimension.[1] These individual parity comparisons should result in a monthly determination of the ILEC's compliance with its section 251 nondiscrimination obligations. The ILEC's record of compliance over some period of time will be used as one element in making a determination of compliance with section 271.[2]

ILEC Results Are Not Reported Or Results Are Incomplete:

The mean, proportion or rate result for CLEC must be compared and a determination made that the CLEC result is no worse than the benchmark performance level. The benchmark performance level to be used in the comparison is the result produced via special study by an ILEC (as described below) or, in the absence of such a study result, either the LCUG default performance benchmarks or other applicable state standards as may be determined by the appropriate regulatory agency.

Benchmarking Study Requirements:

The ILEC should produce a study supporting a benchmark performance level whenever a reasonable ILEC retail analog does not exist. When the ILEC performs a benchmarking study, it must be based upon equivalent experiences of that ILEC and conform to the following minimum requirements: (1) a benchmark result is provided for each reporting dimension described for the measurement; (2) the mean, standard error, and number of sample points are disclosed for each benchmark result; (3) the study process and benchmark are fully disclosed and independently audited; (4) update to the benchmark result will occur whenever changes may reasonably be expected to affect the study results and reviewed every six months for changes in the business climate that could significantly affect the benchmark. Unless directly ordered by the appropriate regulatory commission, no ILEC benchmark should be utilized without the mutual agreement of the CLECs impacted by the use of the benchmark.

Reporting Expectations and Report Format:

CLEC results for the report month are to be shown in comparison to the ILEC retail result for the same period with an indication, for each measurement, where the CLEC result is lesser in quality compared to the ILEC (based upon the test for parity described in the preceding). Such detailed results should be reported only to the CLEC unless written permission is provided to do otherwise. Furthermore, reporting to the individual CLECs should include, for each measure, a representation of the dispersion around the average (mean) of the measured results for the reporting period (e.g. percent of 1-4 lines installed in the 1st day, 2nd day, 3rd day, and 4 - 10 days, etc.) In summary, the ILEC should also report separately on its performance for each reporting dimension as provided to: (1) its own retail customers, (2) any of its affiliates that provide local service, (3) competing carriers (CLECs) in the aggregate, and (4) the individual CLEC receiving the report. The "affiliate" category above includes any ILEC affiliate that purchases local service for resale or purchases unbundled network elements from the ILEC. Performance results of the ILEC and ILEC affiliates would be provided to CLEC's as proprietary information that could be used for legitimate business purposes other than marketing-type activities.

Delivery of Reports and Data:

Reports should be made available to CLECs preferably by the 5th day following the close of the calendar report month or on an alternative schedule, which may be mutually agreed to between

[1] The details of this statistical model used to accept or reject an assumption of parity are found in LCUG's "Statistical Tests For Local Service Parity v1.0" white paper.

[2] The details of the methodology utilized to make a monthly 251 compliance determination as well as the requirements for 271 compliance are found in LCUG's "Local Service Non-Discrimination Compliance and Compliance Enforcement v1.0" white paper.

CLECs and the ILEC. If requested by the CLEC, data files of raw data supporting the performance reports are to be transmitted by the ILEC to the CLEC on the 5th scheduled business day pursuant to mutually acceptable format, protocol and transmission media. Likewise, individual CLEC reports should be considered proprietary and competitively sensitive. As such, no CLEC should receive information about another CLEC (other than a CLEC affiliate of an ILEC).

Disaggregation:
Performance measurements reporting should be disaggregated to ensure parity comparisons are meaningful. The reporting dimensions in Appendix A provide LCUG's recommended disaggregation level for each Performance Measurement. The appropriate disaggregation across all ILECs should be comparable to the requirements in Appendix A. However, LCUG recognizes that the ILECs current method of operation may be unique and thus require modifying the disaggregation to be ILEC specific. The mutually agreed disaggregation must be consistent with the overall requirement of ensuring meaningful parity comparisons that do not obscure actual performance result differences.

Measurement data should be reported in a manner consistent with natural geographic and operational areas that allow prudent operational management decisions to be made and that do not obscure actual performance levels. Currently, ILECs report at levels as discrete as individual exchanges (Central Offices) and as aggregated as the ILEC Region.

Reporting at too high a level of geographic aggregation, for example, statewide (except for a LEC that may serve only a limited portion of a state) or LATA-wide (in states where LATAs encompass large geographic areas) can mask underlying differences in performance so as to make meaningful parity determinations unlikely. For example, if local competition exists only in one metropolitan area of a state, statewide measurement and reporting could obscure that an ILEC is providing significantly superior performance to its own metropolitan retail customers because of its below-average performance in non-competitive parts of the state.

Although an ILEC may claim that it cannot disaggregate below statewide/LATA reporting levels, it knows its performance in various regions within a state so that it can evaluate its operation and performance personnel, and allocation of resources within these smaller geographic units.

ILECs that currently report (whether externally or internally) performance in geographic units smaller than a state or LATA should continue to use those units. For ILECs that have not established such subdivisions, MSAs (metropolitan statistical areas) may be an appropriate level of geographic disaggregation.

Further, performance interval results are often affected by the volume of service requested by the CLEC. For instance, a request for 30 or more telephone numbers or an order for 100 lines will likely lead to a longer performance interval than a request for a single phone number or a single line installation. Hence, it is critical that interval-affecting volumes be reported separately to accurately depict ILEC performance in handling both the smaller and larger volume requests. The volume thresholds should be mutually agreed to by ILECs and CLECs and disaggregated sufficiently to allow a meaningful comparison of an ILEC's retail versus wholesale performance (e.g. Mean Completion Interval for 1-10 lines, 10-30 lines and greater than 30 lines).

Verification and Auditing:

By request of one or more CLECs, an audit of data collecting, computing and reporting processes–as well as related business processes–must be permitted by the ILEC. The ILEC also must permit an individual CLEC to audit or examine its own results pursuant to terms no more restrictive than those established between the CLEC and the ILEC in their interconnection agreement for the relevant operating area.

During implementation of the measurement reporting, the validation of data collection, measurement result computation and report production will be necessary. The ILEC must permit such validation activities. It may not subsequently contend that such activities constitute an audit under the terms of the measurement plan or the CLEC's interconnection agreement.

Adaptation:

Technology, market conditions and industry guidelines/standards continue to evolve. LCUG reserves the right to modify the content of this document as necessary to reflect such changes.

Service Quality Measurements
Executive Overview

Executive Overview:

- Summarizes the business implications of each measurement function
- Quickly lists each measurement and its reporting dimensions

Service Quality Measurements
Executive Overview

Ordering and Provisioning (OP)

Function:
Order Completion Intervals
Business Implications:
• When the CLEC commits to a due date for service delivery, the customer plans for service availability at that time and will be dissatisfied if the requested service or feature is not delivered when promised. • The "average completion interval" metric monitors the time required by the ILEC to deliver integrated and operable service components requested by a CLEC, regardless of whether total service resale or unbundled network elements are employed. • When the service delivery interval of the ILEC is measured for comparable services, then conclusion can be drawn regarding whether or not CLECs have a reasonable opportunity to compete for customers. • The "average completion interval" and "percent completed on time" also may prove useful in detecting developing network capacity problems. • The "average offered interval" shows whether the ILEC offers less favorable timeframes for completions to CLECs than to itself or affiliates. This measure also can be compared to the "mean completion interval" to note disparities in timeframes CLECs are offered but are later changed by the ILEC.

Measurements:	Results Detail:
• Average Completion Interval • % Orders Completed on Time • Average Offered Interval	• Company • Service Type • Order Activity Type • Geographic Scope • Volume Category

Function:
Order Processing Quality
Business Implications:
• Customers expect that their service provider will deliver precisely the service ordered and all the features specified. • The "order accuracy" measurement monitors the accuracy of the provisioning work performed by the ILEC in response to CLEC orders. • Measuring the percent of mechanized order flow through is critical to reducing errors and inefficiency caused by ILEC rekeying CLEC orders on behalf of customers. • Measurements of order rejections and resubmissions can highlight problems with ILEC systems or training processes unduly affecting the CLEC.

Measurements:	Results Detail:
• % Order Accuracy • % Mechanized Order Flow Through • % Order Rejections • Average Submissions Per Order	• Company • Interface Type • Service Type • Order Activity Type • Volume Category

Service Quality Measurements
Executive Overview

Function:
Order Status
Business Implications:
• When customers call their service provider, they expect to be able to promptly get information regarding the progress on their orders. • When changes must be made, such as to the expected delivery date, customers expect that they will be immediately notified so that they may modify their own plans. • The order status measurements, when compared to the ILEC result, will indicate whether the CLEC has timely access to all the information needed to notify its customers promptly when changes and rescheduling are required.

Measurements:	Results Detail:
• Reject Interval • FOC Interval • Jeopardy Interval • Completion Notice Interval • % Completions/Attempts Without Notice or With Notice Less Than 24 Hours • % Jeopardies	• Company • Interface Type • Service Type • Order Activity • Geographic Scope

Function:
Coordinated Cutovers
Business Implications:
• Customers must not be subjected to unscheduled service disruptions because of lengthy or uncoordinated cutovers of loops with interim or permanent number portability. • Customers have suffered loss of dialtone due to the early cutover of trunks with interim number portability. Late ILNP facilities conversions and PNP conversions of translations by ILECs also can cause unscheduled disruptions in service. • The "coordinated cutover" measurements capture the extent to which CLEC customers face more losses in dialtone or call blocking due to mishandling of such cutovers.

Measurements:	Results Detail:
• Average Coordinated Conversion Interval • % Service Loss from Early Cuts • % Service Loss from Late Cuts	• Company • Service Types • Order Activity • Geographic Scope • Volume Category

Function:
Held Orders
Business Implications:
• Customers expect that work will be completed when promised. • There must be assurances that the average period that CLEC orders are held, due to a delayed completion, is no longer for CLEC than ILEC orders.

Measurements:	Results Detail:
• Held Order Interval • % Orders Held ≥ 90 Days • % Orders Held ≥ 15 Days	• Company • Service Type • Reason for Hold (no facilities, no equipment, workload, other) • Geographic Scope

Service Quality Measurements
Executive Overview

Maintenance and Repair (MR)

Function:
Time To Restore
Business Implications:
• Customers expect prompt restoral of service to the normal operating parameters whenever troubles are detected. • The longer the time required to correct a service problem, the greater the customer dissatisfaction • Failure to provide parity in jeopardy notices regarding maintenance appointments can cause customers great inconvenience, particularly for delivery of service through collocations and UNEs when massive coordination of vendors, technicians, translations specialists and other technicians are involved. Customers will not tolerate a provider that cannot at least notify them when a maintenance or trouble handling appointment cannot be met.

Measurements:	Results Detail:
• Time to Restore • Average Jeopardy Notice Interval for Maintenance Appointments/Trouble Handling	• Company • Service Type • Trouble Type • Geographic Scope

Function:
Frequency of Repeat Troubles
Business Implications:
• This measurement, when gathered for both the ILEC and CLEC, can establish whether or not CLECs are competitively disadvantaged (vis-à-vis the ILEC) as a result of experiencing more frequent occurrences of customer troubles not being resolved on the first repair attempt. Differences in this measure may indicate that the CLEC is receiving inferior maintenance support in the initial resolution of troubles or, in the alternative, it may indicate that the network components supplied are of inferior quality.

Measurements:	Results Detail:
• Repeat Trouble Rate	• Company • Service Type • Trouble Type • Geographic Scope

Service Quality Measurements
Executive Overview

Function:
Frequency of Troubles
Business Implications:
• Customers demand high quality service from their supplier, and differentials in supplier performance are quickly recognized throughout the market place. • When measured for both the ILEC and CLEC and compared, this metric shows whether CLECs are competitively disadvantaged, compared to ILECs, as a result of experiencing more frequent incidents of trouble reports. • Disparity in this measure may indicate differences in the underlying quality of the network components supplied.

Measurements:	Results Detail:
• Trouble Rate • % Troubles in 30 Days of New Installations and Other Order Activity	• Company • Geographic Scope • Service Type • Trouble Type

Function:
Estimated Time To Restore Met
Business Implications:
• When customers experience trouble on working services, they naturally expect the services to be restored within the time frame promised. • When this measure is collected for the ILEC and CLEC and then compared, it can be used to establish that CLECs are receiving equally reliable (as compared to the ILEC operations) estimates of the time required to complete repairs.

Measurements:	Results Detail:
• % Customer Troubles Resolved Within Estimate	• Company • Service Type • Trouble Type • Geographic Scope

Service Quality Measurements
Executive Overview

General (GE)

Function:
Systems Availability
Business Implications:
• Dependable access to essential business functionality, supported by OSS of the ILEC, is absolutely essential to CLEC operations. • This measure monitors whether such OSS functionality is at least as accessible by the CLEC as by the ILEC.

Measurements:	Results Detail:
• % System Availability	• By Function Interface • Company • Business Period

Function:
Center Responsiveness
Business Implications:
• When CLECs experience operational problems dealing with ILEC processes or interfaces, prompt support by the ILEC is required in order to ensure that CLEC customers are not adversely impacted • Any delay in responding to CLEC center requests for support (e.g., request for a vanity telephone number) will, in turn, adversely impact the CLEC retail customer who may be holding on-line with the CLEC customer service agent. • This measure monitors whether the ILEC's handling of support calls from CLECs is at least as responsive as the ILEC's handling of calls from its retail customers seeking assistance (e.g., calling the business office of the ILEC or calling the ILEC to report service repair issues).

Measurements:	Results Detail:
• Mean Time to Answer Calls • Call Abandonment Rate	• By Support Center Provided

Function:
Average Response Interval for Real-Time OSS Queries
Business Implications:
• The CLEC customer service agent must determine the availability of desired features, likely service delivery intervals, telephone number(s) to be assigned and the validity of the street address information while the customer (or potential customer) is on the line. • It is critical that the CLEC employees be perceived as equally competent, knowledgeable and fast as ILEC customer service agents. • This measure is designed to monitor the time required for CLECs to obtain the pre-ordering information necessary to establish and modify service and maintenance information necessary to handle trouble resolution activities. • Comparison to the ILEC results allow conclusions regarding whether CLECs have an equal opportunity to deliver a comparable customer service experience.

Measurements:	Results Detail:
• Average Response Interval for OSS Query Information	• Query Type (Pre-Ordering and Maintenance) • Interface Type for Each Functional Area

Billing (BI)

Function:	
Timeliness Of Billing Record Delivery	
Business Implications:	
• Regardless whether the billing is for retail customer or exchange access service, the timing of ILEC delivery of billing records must provide CLECs with the opportunity to deliver timely bills in as timely a manner as the ILEC; otherwise artificial competitive advantage would be realized by the ILEC.	
Measurements:	**Results Detail:**
• Mean Time to Provide Recorded Usage Records • Mean Time to Deliver Invoices	• Company • Type of Record (end user or access) or Invoice (resale, UNE or interconnection services)

Function:	
Accuracy of Billing Records	
Business Implications:	
• The accuracy of billing records affects the accuracy of the billing ultimately delivered to local service customers, whether retail local service or exchange access service customers. • Billing for the elements from which CLEC services are constructed must be validated to assure that only correct charges are paid.	
Measurements:	**Results Detail:**
• % Invoice Accuracy • % Usage Accuracy	• Company • Type of Record (end user or access) or Invoice (resale, UNE or interconnection services)

Operator Services/Directory Assistance & Listings (OS, DA & DL)

Function:	
Speed To Answer	
Business Implications:	
• The speed of answer delivered to CLEC retail customers, when the ILEC provides Operator Services or Directory Services on behalf of the CLEC, must be no slower than the speed of answer that the ILEC delivers to its own retail customers of equivalent local services. • CLECs need adequate time to review the accuracy of directory listings before publication. The opportunity to check for errors should be available at parity with that afforded the ILEC or its affiliates regardless of whether manual or electronic interfaces are available.	
Measurements:	**Results Detail:**
• Mean Time to Answer • Average Time Provided To Proof Updated Listings Prior to Publication	• Company • Operator Services by Center • Directory Service by Center • Directory Listings by Directory Note: OS/DA Speed to Answer is to be CLEC-specific if technically feasible.

Network Performance (NP)

Function:	
Network Performance	
Business Implications:	
• The perceived quality of CLEC retail services, particularly when either ILEC services are resold or UNE combinations are employed, will be heavily influenced by the underlying quality of the ILEC network performance. • Customers experience the quality of the service provider each time services are used.	
Measurements:	**Results Detail:**
• % Call Completion (Inbound and Outbound) • Mean time to notify CLEC of a Network Incident/Outage • Transmission Quality	• Trunk Type • Switch • Company • Geographic Scope • Reportable Incident